IN THE CLAIMS

Please add new claims 21-25 as follows:

21. The method according to claim 10, wherein said set of segment characteristics is in an optimal order.

22. A computer system for describing a performance of a segmented transmission line having a plurality of segments, each segment having a transfer function, comprising:

(a) a memory location storing at least one characteristic value the transfer function of a respective segment of the segmented transmission line;

(b) a memory location storing information relating to at least one algorithm, said algorithm being for determining the effect of a respective characteristic value and sequence of transmission line segments on a performance of the overall segmented transmission line; and

(c) a processor, executing a program for iteratively adjusting a set of characteristic values for respective transmission line segments to achieve an optimized performance within a predetermined performance constraint with respect to the at least one algorithm.

23. The system according to claim 22, wherein the characteristic value is a length of a respective transmission line segment.

24. The system according to claim 22, wherein the performance constraint is selected from the group consisting of a signal transmission efficiency and a VSWR.

25. The system according to claim 22, wherein the segmented transmission line comprises an air-spaced coaxial transmission line adapted for transmitting an RF signal, the characteristic value being a length of a respective transmission line segment, the optimized respective characteristic values being substantially non-incrementally and non-monotonically distributed across a range.

CLEAN COPY OF NEW CLAIMS 21-25

21. The method according to claim 10, wherein said set of segment characteristics is in an optimal order.

22. A computer system for describing a performance of a segmented transmission line having a plurality of segments, each segment having a transfer function, comprising:

(a) a memory location storing at least one characteristic value the transfer function of a respective segment of the segmented transmission line;

(b) a memory location storing information relating to at least one algorithm, said algorithm being for determining the effect of a respective characteristic value and sequence of transmission line segments on a performance of the overall segmented transmission line; and

(c) a processor, executing a program for iteratively adjusting a set of characteristic values for respective transmission line segments to achieve an optimized performance within a predetermined performance constraint with respect to the at least one algorithm.

23. The system according to claim 22, wherein the characteristic value is a length of a respective transmission line segment.

24. The system according to claim 22, wherein the performance constraint is selected from the group consisting of a signal transmission efficiency and a VSWR.

25. The system according to claim 22, wherein the segmented transmission line comprises an air-spaced coaxial transmission line adapted for transmitting an RF signal, the characteristic value being a length of a respective transmission line segment, the optimized respective characteristic values being substantially non-incrementally and non-monotonically distributed across a range.